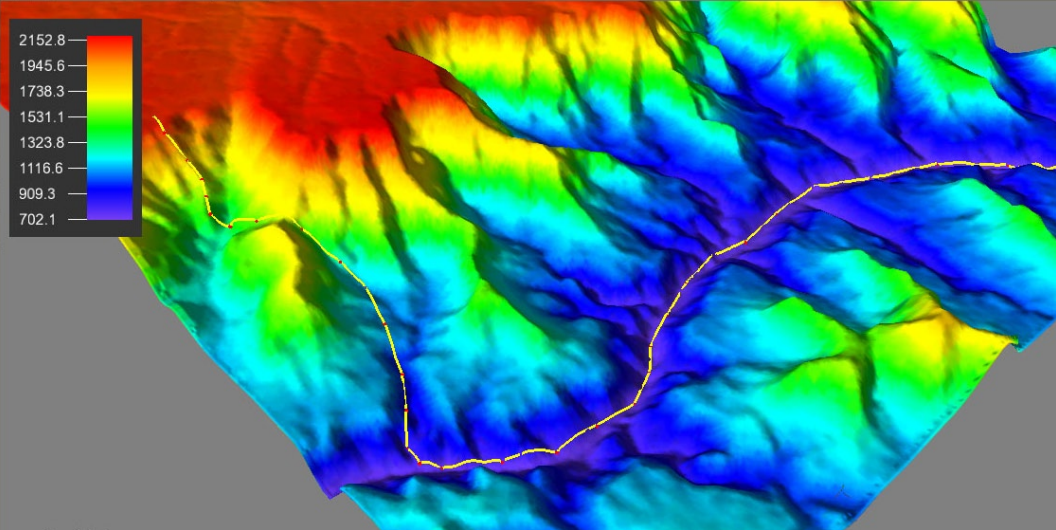
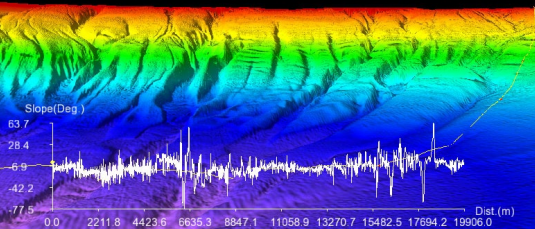
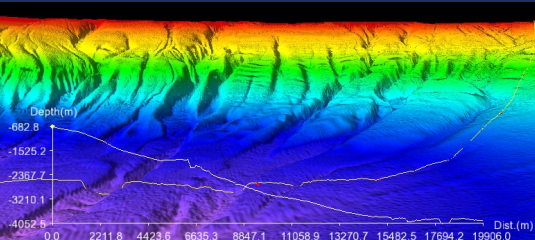


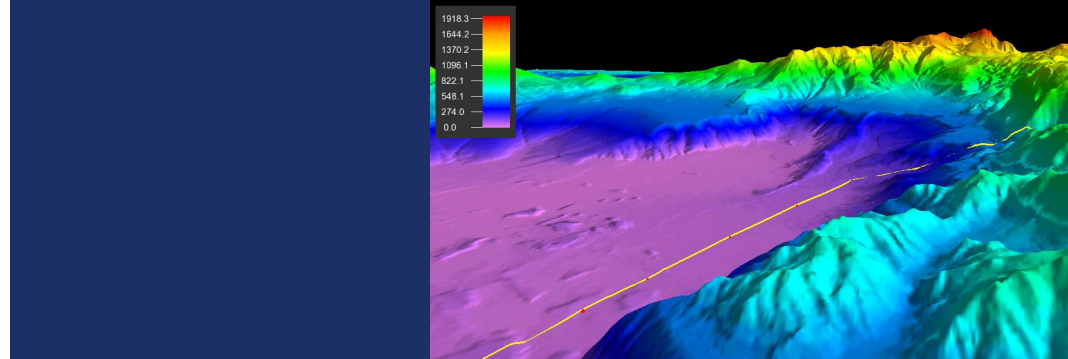
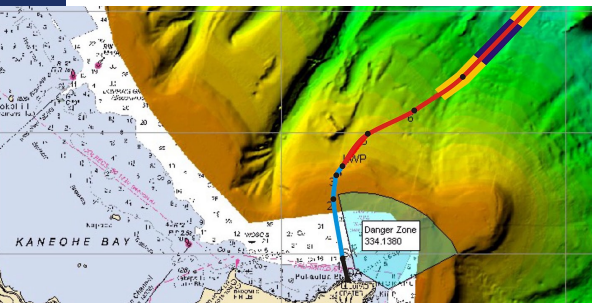
# MakaiDTM

Digital Terrain Modeling Module for MakaiPlan  
and MakaiPlan Pro



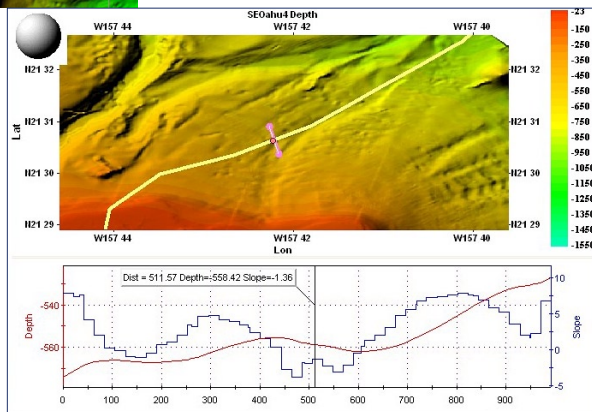
**MakaiDTM** has been developed as a module for MakaiPlan/Pro to provide you with the ability to easily process and visualize the original survey data collected prior to a lay. Until recently, MakaiPlan users were limited in the use of bathymetry data by only having the ability to integrate contour data into their designs. However, bottom contours do not always provide the most accurate representation of true bottom features, including lateral slopes between adjacent contours. When plows are used to bury cables, detailed knowledge of along and across track slopes are particularly important. To have a clear understanding of the bottom features which can have a direct impact on the installation and life of the submarine cable requires that that you make use of as much of the point data collected by the surveyor as possible (i.e., the original X,Y,Z points).

MakaiDTM includes multiple seafloor mapping tools that allow you to process and transform raw survey data into easily recognizable maps and images from which to view the seafloor conditions. With MakaiDTM, you no longer have to purchase and learn different software packages from different vendors to process digital terrain data; the entire planning process can be performed within MakaiPlan increasing the accuracy and efficiency of the design process.



## FLEXIBILITY

The new MakaiDTM module provides tremendous flexibility in managing the large amount of point (X,Y,Z) data provided by the surveyor (usually tens of million points). Using an automated process, you can divide large data sets into a series of overlapping data blocks or “pages”. The number of data points in each page can be defined such that the pages can be easily managed by your PC (usually 2 million points or less). Following separation of the raw (survey) data into pages, grid files can be automatically created or manually generated based on your preference. The grid size for each page is automatically determined by the software to match the smallest data footprint in each page in order to maintain the same level of accuracy from the original survey, while avoiding the creation of high frequency, non-existent features.



## AUTOMATION

You can use the automation tools to quickly and easily grid data, create and view grid maps and shaded relief images and create your own Geotiffs. There is even a “Generate DTM Pages Wizard” which will walk you through the process.

## VERSATILITY

The module includes many options and features that allow you to edit the survey data, customize the gridding process, create different types of contour maps and shaded relief images. In addition, colored shaded relief images in conjunction with detailed color contour maps can be automatically geo-referenced and incorporated in the main MakaiPlan GIS window to further facilitate the selection of the optimum cable route.

## MAIN MAKAI DTM FEATURES:

- Load, process and edit the survey data.
- Create grid files using a variety of methods.
- Create contour colored maps.
- Create color shaded relief maps with user definable sun elevation and azimuth.
- Superimpose the RPL on any of the created maps and quickly generate accurate slope graphs along and across any desired route section.
- Automatically geo-reference maps as Geotiffs and display them as layers on the main MakaiPlan GIS window (figure above).
- Optionally, the capability to load and visualize sections of the survey data in 3D (figure top).

For more information and pricing, contact:



**Makai Ocean Engineering**  
 makaidtm@makai.com  
 Phone 1 808.259.8871  
 Fax 1 808.259. 8238